

## Helping to overcome intervention inertia in Bystander's dilemmas: behavioral disinhibition can improve the greater good

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## Accepted Manuscript

Helping to Overcome Intervention Inertia in Bystander's Dilemmas: Behavioral Disinhibition can Improve the Greater Good

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## Abstract

Conventional wisdom holds that behavioral disinhibition has negative effects on what humans do. Behavioral disinhibition may indeed frequently have negative effects, but in the present paper we reveal some positive consequences as well: The disinhibition hypothesis proposed here states that people may feel inhibited to intervene in situations in which non-intervening bystanders are present and that, therefore, behavioral disinhibition may help to overcome the bystander effect. Findings presented here provide evidence supporting this prediction both inside and outside the psychology laboratory: In both real-life and controlled bystander situations, people were more likely and faster to provide help when (unrelated to the bystander situations) they had (vs. had not) been reminded about having acted with no inhibitions. These findings suggest that, in contrast with what various theories and worldviews dictate, behavioral disinhibition may have positive effects on helping behavior and hence can be conducive for the greater good.

Keywords: bystander effect, behavioral disinhibition, behavioral interventions, greater good

### Helping to Overcome Intervention Inertia in Bystander's Dilemmas:

#### Behavioral Disinhibition can Improve the Greater Good

In this paper we focus on behavioral disinhibition and its effects on helping behavior in bystander situations. Specifically, we concentrate on behavioral disinhibition as this can be derived from the work by Carver and White (1994) and we note that this concept is related to Latané and Nida's (1981) conceptualization of audience inhibition as a major mechanism explaining the bystander effect. Audience inhibition in bystander dilemmas refers to a person wanting to engage in helping behavior, but is being restrained from doing so because of the presence of others (bystanders) who are not helping.

In the present paper, we argue that audience inhibition may be lowered (as evidenced by more and faster helping behavior in bystander situations) when more general behavioral inhibition (as defined by Carver and White, 1994) is weakened. Specifically, we propose that reminding people of having acted with no inhibitions (in a manner that is unrelated to the bystander situations participants subsequently experience) would be a good manipulation of lowered general behavioral inhibition (as measured by a state version of Carver and White's, 1994, Behavioral Inhibition Scale; see pretest) and thus should lead to more and faster helping behavior in both real-life and lab-controlled bystander situations (see Studies 1 and 2).

#### Behavioral Disinhibition

The concepts of inhibition and disinhibition have been used to refer to different processes in different research literatures (Amodio, Master, Yee, & Taylor, 2008; Carver, 2005). In the present paper, we build our line of reasoning on one dominant view of behavioral inhibition, namely the work by Carver and White (1994). Based on the work by Gray (e.g., 1990) and others (e.g., Fowles, 1993),

Carver and White assume that two general systems orchestrate adaptive behavior. The first system is called the Behavioral Inhibition System (BIS) and regulates aversive motivation in response to anxiety-relevant cues. This system inhibits behavior that may lead to negative or painful outcomes. Thus, BIS activation causes inhibition of movement toward goals. BIS functioning is responsible for the experience of negative feelings such as fear and anxiety. Furthermore, greater BIS sensitivity is reflected in greater propensity to anxiety (Gray, 1972).

The second system has been labeled the Behavioral Activation System (BAS). This system is believed to control appetitive motivation and is sensitive to signals of reward and nonpunishment. The BAS is responsible for the experience of positive feelings such as hope, elation, and happiness (Gray, 1990). Among other things, greater BAS sensitivity is assumed to be reflected in greater propensity to experience positive feelings when the person is exposed to cues of impending reward.

The BIS and BAS were proposed as a framework for understanding how mechanisms for behavioral regulation relate to human motivation, personality, and, by extension, psychological dysfunction (Gray & McNaughton, 2000). With respect to this latter aspect, very strong BIS is compatible with anxiety-related disorders (Fowles, 1993) whereas very weak BIS relates to primary psychopathy (Newman, MacCoon, Vaughn, & Sadeh, 2005). Low levels of BIS correspond to having no or very weak behavioral inhibitions. These levels of BIS are usually called behavioral disinhibition and in the current paper we will use this label as well. Psychological research has shown that behavioral disinhibition may lead to antisocial acts (Lilienfeld, 1992) and psychopathological behaviors (Nigg, 2000). As a result, Peters et al. (2006) have referred to behavioral disinhibition as the production of unwanted acts.

Related to this, there have been several pleas for humans to refrain from disinhibited behavior. For example, Kant (1785) proposed that when people would think more carefully about what is going on in the situation at hand before they start acting this may lead people to do what is better for society at large. Thus, Kant was arguing that it would be conducive for the greater good if people acted with somewhat more inhibition than they normally tend to do. This indeed may often be the case, but in the present paper we argue that at least some levels of behavioral disinhibition may have *positive* effects on helping behavior in situations in which persons are confronted with someone in need of help and in which bystanders do not provide this help. In other words, we propose that behavioral disinhibition may help to overcome the bystander effect (Darley & Latané, 1968).

### The Bystander Effect

A core issue facing social psychologists is how to overcome intervention inertia in bystander's dilemmas. Consider the well-known case of Kitty Genovese, who was stabbed to death in 1964 by a serial rapist and murderer. The killing took place over the course of half an hour: The murderer initially fled the scene, scared off by a neighbor, but returned 10 minutes later after realizing that no bystanders had interceded on Genovese's behalf. Since 1964, numerous instances have been documented of people not intervening when others are present. For example, in 2002, René Steegmans, a Dutch student, was killed in the Netherlands in an "act of senseless violence" by two perpetrators while multiple bystanders did not intervene. The responsible minister, Johan Remkes, wondered whether Dutch citizens had become indifferent to violent behaviors and apathetic to situations in which people need help (Stokmans, 2008), an explanation that quite often is given by politicians and other observers of bystander non-intervention.

However, psychological research suggests that indifference and apathy are not the key factors causing people to be slower or less likely to help a person who is in need of help when other, non-intervening bystanders are present (Darley & Latané, 1968; Latané & Darley, 1968, 1970). In their review of the literature, Latané and Nida (1981) identify three important determinants of the bystander effect: (1) diffusion of responsibility (bystanders present creates more confusion who is responsible for intervening), (2) social influence (other non-intervening bystanders communicate that not acting is the norm and people tend to adhere to that norm), and (3) audience inhibition (as a result of the non-intervening audience people may feel inhibited about behaviorally intervening in the situation at hand). It is on this latter determinant that we would like to focus here.

#### The Current Research

Although many publications on the bystander effect suggest that to understand the effect it is important to focus on the fact that people may feel inhibited about whether to help in bystander situations (Latané & Darley, 1970; Latané & Nida, 1981; Karakashian et al., 2006; Schwartz & Gottlieb, 1976, 1980), it is striking that, according to our knowledge, there have been no studies reported that directly examine the role of behavioral inhibition on helping in bystander situations. For instance, previous studies that focused on the inhibition account of the bystander effect have measured fear of negative evaluations as an individual difference variable (Karakashian, Walter, Christopher, & Lucas, 2006) or manipulated whether the bystanders would be aware of participants' actions and found mixed results of this manipulation on helping behavior (Schwartz & Gottlieb, 1976, 1980). In the current paper we focus more directly on the role of behavioral inhibition in understanding the bystander effect. We think there are at least three reasons for doing so.



First, in the bystander literature audience inhibition has been assumed to be caused by fear of negative evaluations of non-intervening bystanders watching the intervenor help a person (Latané & Nida, 1981). In the words of Latané and Nida (1981, p. 309): "The bystander who decides to intervene runs the risk of embarrassment if, say, the situation is misinterpreted and is not actually an emergency... The presence of others can inhibit helping when individuals are fearful that their behavior can be seen by others and evaluated negatively." Building on the work by Carver and White (1994) and others (e.g., Fowles, 1993; Gray, 1972, 1990), we propose that the BIS, being the aversive motivational system, may well be related to helping behavior in bystander situations. As noted, the BIS regulates responses to anxiety-relevant cues, which in the case of bystander situations may involve non-intervening others watching you engage in helping behavior (Latané & Nida, 1981). Furthermore, the BIS inhibits behavior that may lead to negative or painful outcomes, which in bystander situations may entail negative audience evaluation (Karakashian et al., 2006), and BIS activation causes inhibition of movement toward goals, which may result in inhibition of helping behavior when bystanders are present (Latané & Nida, 1981).

Second, we focus on an as yet unexamined conceptual implication of the role of behavioral inhibition in understanding helping behavior in bystander situations. That is, we propose that if, as we have argued here, a non-intervening audience indeed leads to inhibition to behaviorally intervene among potential intervenors involved, then it should be the case that weakening more general behavioral inhibition (as defined by Carver & White, 1994) should positively affect helping behavior in bystander situations. In the current research we developed a *disinhibition manipulation* that was successful in doing precisely this. Specifically, building on

earlier manipulations successfully used in various domains of experimental social psychology (see, e.g., Greenberg, Solomon, & Pyszczynski, 1997; Loseman, Miedema, Van den Bos, & Vermunt, 2009; Van den Bos, Poortvliet, Maas, Miedema, & Van den Ham, 2005; Van Prooijen, Van den Bos, & Wilke, 2002), we argued that asking participants to complete only three open-ended questions that reminded them of having acted with no behavioral inhibitions in the past should weaken behavioral inhibition among our participants in a way that fits our behavioral inhibition analysis. Indeed, we show in a pretest that our manipulation successfully lowers behavioral inhibition as assessed by a state version of the most popular and well-validated measure of BIS sensitivity, the Carver and White (1994) BIS scale.<sup>1</sup>

Third, obtaining evidence supporting our hypothesis would reveal that being reminded of acting with no inhibitions (what is generally referred to as behavioral disinhibition; Peters et al., 2006) may have positive, not negative, effects on helping behavior in bystander situations. We refer to this hypothesis as the *disinhibition hypothesis* and we note that obtaining evidence for this prediction would extend previous insights on the predominantly negative effects of behavioral disinhibition discussed in both philosophy (e.g., Kant 1785) and psychology (e.g., Lilienfeld, 1992; Nigg, 2000; Peters et al., 2006). After having discussed the results of our pretest, we present two bystander studies showing evidence for our hypothesis that being reminded of having acted with no inhibitions (unrelated to the bystander situations that participants experience) will indeed produce more and/or faster helping behavior, both in the psychology laboratory and everyday life.

#### Pretest

Sixty-two students at Utrecht University were randomly assigned to either the disinhibition or no-disinhibition conditions. Specifically, participants were informed

that they would participate in two unrelated studies. In the first study, building on earlier manipulations (e.g., Van den Bos et al., 2005; Van Prooijen et al., 2002), participants in the disinhibition condition were asked to complete three open-ended questions that asked about their thoughts and feelings about their behaving with no inhibitions: "Please briefly describe a situation out of your own life in which you acted with no inhibitions," "Please briefly describe how you behaved in the situation in which you acted with no inhibitions," "Please briefly describe the emotions that you experienced when you acted with no inhibitions." In the no-disinhibition condition participants were asked to respond to questions that asked them about their thoughts and feelings about their behaving in a normal way during a regular day: "Please briefly describe a situation out of your own life in which you acted in a normal way like you do on a regular day," "Please briefly describe how you behave when you act in a normal way like you do on a regular day," "Please briefly describe the emotions that you experience when you act in a normal way on a regular day."

This was followed by answering the 20 items of the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS was included as a filler task and to assess whether our disinhibition manipulation engendered positive and negative affect. The PANAS consists of two ten-item subsets (Watson et al., 1988), one measuring positive affect (PA) and one measuring negative affect (NA), and both subsets were averaged to form reliable scales ( $\alpha$ 's = .82 and .81, respectively).

After this, the first study ended and the second study began. In the second study, participants first answered more than 20 filler questions, and only then completed a state version of the 7-item Behavioral Inhibition Scale (BIS; Carver & White, 1994). Example items of the state BIS are "At this moment, I worry about

making mistakes" and "At this moment, I would feel pretty worried or upset when I think or know somebody is angry at me" (1 = *strongly disagree*, 7 = *strongly agree*;  $\alpha = .76$ ). The results showed the anticipated pattern. That is, our disinhibition manipulation successfully lowers behavioral inhibition such that participants in the disinhibition condition experienced lower levels of state behavioral inhibition ( $M = 4.97$ ,  $SD = 0.82$ ) than participants in the no-disinhibition condition ( $M = 5.39$ ,  $SD = 0.74$ ),  $F(1, 60) = 4.40$ ,  $p < .05$ ,  $\eta^2 = .07$ .

We also assessed whether our disinhibition manipulation influenced a state version of Carver and White's (1994) 13-item Behavioral Activation Scale (BAS;  $\alpha = .85$ ). The BAS consists of three subscales: reward responsiveness (e.g., "At this moment, I would be excited to win a contest";  $\alpha = .74$ ), drive (e.g., "At this moment, I would go out of my way to get things that I want";  $\alpha = .74$ ), and fun seeking (e.g., "At this moment, I am doing things for no other reason than that they might be fun";  $\alpha = .66$ ). The disinhibition manipulation did not influence any of the subscales measuring behavioral activation,  $F_s < 0.26$ ,  $p_s > .61$ ,  $\eta^2_s = .00$ , nor the global BAS scale,  $F(1, 60) = 0.13$ ,  $p > .71$ ,  $\eta^2 = .00$ .

Furthermore, analyses of variance on the positive and negative subsets of the PANAS yielded no significant effects,  $F_s < 0.60$ ,  $p_s > .51$ ,  $\eta^2_s = .00$ , suggesting that positive affect ( $M = 4.56$ ,  $SD = 0.76$ ) and negative affect ( $M = 2.12$ ,  $SD = 0.76$ ) cannot explain the effects of the our disinhibition manipulation. Thus, as intended, the manipulation of behavioral disinhibition weakened behavioral inhibition, did not influence behavioral activation, and did not influence affective states, indicating that our manipulation was not some kind of action priming or an affect manipulation, but was a manipulation that, as intended, did lower behavioral inhibition. After thus having pretested our manipulation, the aim of Study 1 was to show in a non-student

sample that the manipulation of behavioral disinhibition can influence helping behavior in a real-life bystander situation.

### Study 1

#### *Method*

*Participants and design.* Twenty-nine passengers (16 men and 13 women) at Utrecht Central Railway Station participated voluntarily in the study and were randomly assigned to either the disinhibition or no-disinhibition conditions. Participants' ages varied between 16 and 64 years, and the mean age was 33.86 years ( $SD = 16.37$ ).<sup>2</sup>

*Procedure.* Experimenters and confederates in both Studies 1 and 2 were blind to conditions. Furthermore, we ensured that participants completed the three disinhibition questions (or no-disinhibition questions in the control condition) in a way that was unrelated to the bystander situations they subsequently experienced. Specifically, Study 1 was conducted in waiting rooms at Utrecht Central Railway Station where multiple persons were present. The experimenter asked one passenger whether s/he would like to fill out a one-page questionnaire. When the participant agreed to do so, the experimenter handed over the questionnaire. The questionnaire asked for age and gender, after which participants were asked to complete the three open-ended questions that constituted either the disinhibition condition or the no-disinhibition condition (see pretest). After participants had completed the questionnaire, the experimenter collected the questionnaire, left the waiting room, and walked out of sight of the participants.

One minute after this, another passenger (in reality, an actor hired as a confederate) sitting opposite to the passenger stood up, ostensibly to catch a train in a hurry, and in doing so dropped various pens (cf. Latané & Darley, 1968) on the floor

of the waiting room. Our dependent variables were whether the participant offered any help in picking up the pens (*yes/no*), the number of seconds it took before the participant started helping picking up the pens, and the percentage of pens picked up by the participant.<sup>3</sup>

### *Results*

As hypothesized, help was offered by significantly more participants who had filled out the questions pertaining to behavioral disinhibition (53.3%) whereas not many participants helped in this bystander situation when they had *not* been asked to fill out questions pertaining to behavioral disinhibition (7.1%),  $\chi^2(1, N = 29) = 7.22, p < .01, V = .50$ . Participants in the disinhibition condition were also faster to start helping picking up the pens ( $M = 5.38$  sec,  $SD = 2.80$ ) than those in the no-disinhibition condition ( $M = 7.62$  sec,  $SD = 1.43$ ),  $F(1, 27) = 7.21, p < .02, \eta^2 = .21$ . Furthermore, a greater percentage of the dropped pens was picked up by participants in the disinhibition condition ( $M = 25.63\%$ ,  $SD = 28.02$ ) than in the no-disinhibition condition ( $M = 0.89\%$ ,  $SD = 3.34$ ),  $F(1, 27) = 10.75, p < .01, \eta^2 = .28$ .

### Study 2

Study 1 strongly corroborated the disinhibition hypothesis in a real-life bystander situation. There were always bystanders present in Study 1 and the number of bystanders ( $n = 2-13$ ) did not significantly affect the dependent variables in neither the disinhibition nor the no-disinhibition conditions,  $ps > .08$ . The number of bystanders having no effects has been found before (see, e.g., Piliavin & Piliavin, 1972; Piliavin, Piliavin, & Rodin, 1975; Piliavin, Rodin, & Piliavin, 1969), although certainly not always (see, e.g., Latané & Nida, 1981). Furthermore, our results were still significant when we controlled for the number of bystanders as a covariate variable,  $ps < .02, \eta^2s > .20$ .

The aim of Study 2 was to demonstrate the disinhibition hypothesis in a more controlled bystander situation and contrast this with responses when no bystanders were present (and hence behavioral inhibition would be of no or lesser concern; Latané & Nida, 1981). We predicted that the disinhibition manipulation would especially affect responses in the bystander situation, in which behavioral inhibition is more of a concern than in no-bystander situations (Latané & Nida, 1981). Although participants' responses to people who need help to pick up the pens they have dropped is important when studying the bystander effect (Latané & Dabbs, 1975), in Study 2 we wanted to find out whether the disinhibition hypothesis is generalizable to a bystander situation in which there is a clear emergency, as would be the case if a person were choking.

#### *Method*

*Participants and design.* Fifty-two students (21 men and 31 women) at Utrecht University were randomly assigned to one of the conditions of the 2 (behavioral disinhibition: disinhibition vs. no disinhibition) x 2 (bystanders: present vs. absent) factorial design. Participants were paid 3 Euros or received course credit for their participation.

*Procedure.* In Study 2, participants were informed that they would complete three unrelated questionnaires in three different envelopes. The first envelope contained either the three disinhibition questions or the no-disinhibition questions. The second envelope contained the PANAS, again yielding reliable scales of positive affect ( $\alpha = .88$ ) and negative affect ( $\alpha = .89$ ). The third envelope contained questions pertaining to a research study on consumer behavior in which participants then took part: Participants were invited to participate in a marketing study on evaluations of different candies. Participants took part in the study sitting at a large

table. In all conditions there was another student (in reality a confederate) participating in the experiment, sitting opposite to the participant. In the bystanders-present condition there were two other students (also confederates) participating at the other sides of the table. In the bystanders-absent condition these two participants were not present. The questionnaire in the consumer study asked participants to evaluate different kinds of candies. While tasting the candies the participant sitting opposite to the participant choked on one of the candies for 70 seconds.

Our dependent variables were whether the participant offered help to the choking participant during this period (*yes/no*) and the number of seconds it took them before offering help.<sup>4</sup> At the end of the experiment, participants were thoroughly debriefed. During debriefing, participants indicated no suspicion of the procedures employed nor did they suspect a direct relationship between the disinhibition manipulation and their reactions to the choking participant. The participants also did not report strong experimenter demands during the consumer study (in fact, the experimenter had left the room after instructing how to begin with the study, making an experimenter demand explanation of our disinhibition effects not very likely).

### *Results*

*PANAS.* Analyses of variance on the positive and negative subsets of the PANAS yielded no significant effects,  $F_s < 0.52$ ,  $p_s > .47$ ,  $\eta^2_s = .00$  (PA:  $M = 4.46$ ,  $SD = 0.99$ ; NA:  $M = 1.88$ ,  $SD = 0.82$ ). Thus, as in the pretest, affect cannot explain the effects of our disinhibition manipulation.

*Helping behavior.* Not surprisingly, the large majority of our participants (88.5%) helped the participant who was obviously choking. We found a bystander effect such that all of the participants ( $n = 26$ ) helped in the condition where bystanders were absent, whereas 76.9% of the participants ( $n = 20$ ) helped in the



condition where bystanders were present,  $\chi^2(1, N = 52) = 6.78, p < .03, V = .36$ . Of the participants in the bystander-present condition who did *not* help, 2 were in the disinhibition condition and 4 were in the no-disinhibition condition, but this difference was not statistically significant,  $\chi^2(1, N = 26) = 0.87, p > .64, V = .18$ , probably due to the small *ns* involved.

The number of seconds participants took before helping yielded a significant main effect of the bystander manipulation,  $F(1, 48) = 19.86, p < .001, \eta^2 = .29$ , and a significant interaction effect,  $F(1, 48) = 4.35, p < .05, \eta^2 = .08$ . The disinhibition main effect was not significant,  $F(1, 48) = 2.09, p > .15, \eta^2 = .04$ . Table 1 presents the means and standard deviations. The bystander main effect indicated that participants helped faster when non-intervening bystanders were absent as opposed to present. The interaction effect revealed that when bystanders were present, participants were significantly faster to help the choking participant in the disinhibition condition as opposed to the no-disinhibition condition,  $F(1, 50) = 4.58, p < .04, \eta^2 = .08$ . When bystanders were absent, the behavioral disinhibition manipulation did not affect participants' responses,  $F(1, 50) = 0.14, p > .71, \eta^2 = .00$ . To put it differently, the bystander effect was statistically significant in the no-disinhibition condition,  $F(1, 50) = 20.23, p < .001, \eta^2 = .29$ , and was not significant in the disinhibition condition,  $F(1, 50) = 1.97, p > .16, \eta^2 = .04$ .

### General Discussion

Reducing intervention inertia in bystander's dilemmas is an important goal, for both psychologists and society at large, and has been proven to be difficult to attain (Latané & Nida, 1981). The present paper integrated Carver and White's (1994) work on behavioral inhibition with the Latané and Nida (1981) line of reasoning on audience inhibition. Building on this integration we argued that lowered behavioral

inhibition should help people to overcome intervention inertia in bystander dilemmas.

We proposed a manipulation that reminded people of having acted with no behavioral inhibitions and we showed that this manipulation successfully weakens state behavioral inhibition (see pretest). Furthermore, we demonstrated the novel insight that this manipulation of disinhibited behavioral states can lead to more (Study 1) and faster (Studies 1 and 2) helping behavior in both real-life and controlled bystander situations. Study 1 shows that people help more and help faster in a public place when the concept of behavioral disinhibition has been activated before than when it has not been activated. Study 2 was a true bystander experiment in which we found that having reminded people about their having acted with no behavioral inhibitions (prior and unrelated to the bystander situation they experienced) led to significantly faster helping of an individual who was choking.

We should note that in Study 2 we did not find reliable effects of our disinhibition manipulation on whether participants helped the person who was choking, perhaps caused by the seriousness of the emergency event and/or the low ambiguity of the emergency. What is interesting, though, is that while the emergency situation of Study 2 indeed may have been more serious and less ambiguous than in Study 1, our manipulation of behavioral disinhibition still led to significant faster helping responses to the choking person. Quite often persons in need of help are not helped fast enough to cope adequately with the emergency at hand, suggesting that behavioral disinhibition may have important positive effects in situations in which people are in need of help.

Our disinhibition manipulation consisted of only completing three questions that remind people of their acting with no behavioral inhibitions, and our findings suggest that this weakened state BIS, and did not instigate state BAS nor affective

responses or strong experimenter demands. When we inspected what participants wrote down when answering the disinhibition manipulation we found that they were not so much describing heroic altruistic acts, as describing situations in which they did not feel strong public constraints on their behaviors, such as when they were attending big dance parties or other events in which they felt they could do whatever they wanted to do.

We work from the assumption that audience inhibition in bystander dilemmas involves a combination of cognitive thoughts and unconscious processes that have a motivational impact on what people do in social situations. With our disinhibition questions we activated associations of information that served to remind our participants of behavior they have performed in the past. Thus, the disinhibited behavior manipulation reminded participants about their behaving with no inhibitions or at least with fewer constraints than they normally experience. In our opinion, the semantic priming of the concept of disinhibited behavior (an essentially cognitive process) that is the result of this manipulation may impact what people do in social situations because it instigates processes with a more motivational flavor, in this case the lowering of anxiety and BIS-related responses. This process may reduce behavioral and audience inhibitions, thus leading people who want to engage in helping behavior but are restrained from doing so because of non-intervening others present, to overcome this restraint and thus to help more and faster in bystander situations.

We would applaud future research studies that examine in more detail the psychological processes that behavioral disinhibition instigates. Future research should focus also on examining both the positive and negative effects of behavioral disinhibition on helping behavior in bystander and other situations. We hope that the

disinhibition hypothesis proposed here may be conducive in this process. It may be relevant to note here that in another paper (Van den Bos et al., 2008) we found that trait BIS (and not trait BAS) led to more interventions in footbridge dilemmas, that our behavioral disinhibition manipulation also triggered more interventions in these dilemmas, and that we found that other manipulations (such as power or aggression salience) similarly lowered state BIS and led to more interventions in footbridge dilemmas and lowered satisfaction with products obtained by unethical means in real social interaction contexts. All this suggests, in our opinion, that the effects reported here are correct in pointing to the positive effects disinhibited behavior states can have (in addition to the negative effects behavioral disinhibition may also have in other contexts on other types of human reactions; see, e.g., Peters et al., 2006).

### *Conclusions*

One of the reasons why we think it is interesting to have provided evidence for our disinhibition hypothesis is because this hypothesis can be contrasted with earlier insights noting the detrimental effects of disinhibition on human behavior. Quite often (e.g., when one witnesses aggressive acts, see people insult others, or when one watches a Jerry Springer show) one indeed wishes that people would refrain from disinhibited behaviors. This noted, our findings suggest that disinhibited conditions may also help to free people from behavioral constraints that prevent helping in bystander situations, leading them to actually help more and faster. This suggests that behavioral disinhibition may be bad, except when it is not: Sometimes behavioral disinhibition can be conducive for the greater good.

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## Footnotes

<sup>1</sup>Please note that for participants of the pretest the measurement of BIS was unrelated to the disinhibition manipulation. Furthermore, in both Studies 1 and 2 we made sure that participants completed the three disinhibition questions in a way that was unrelated to the bystander situations they subsequently experienced. Also, careful debriefing in Study 2 revealed that participants did not experience strong experimenter demands (in fact, the experimenter had left the room after instructing how to start the experiment). Similarly, in Study 1 the experimenter was not present anymore and was not likely to return when the helping situation was created, making an experimenter demand explanation of the effects on helping behavior not very likely.

<sup>2</sup>Gender and age did not interact with the hypotheses of our studies and were dropped from analyses.

<sup>3</sup>The actor waited 20 seconds before starting to pick up the pens. In order to be able to run analyses on all participants involved (and hence not having to rely on possibly too small *ns* of only participants who helped, which could mean that we possibly would report unreliable statistics), participants who did not help were assigned the maximum number of seconds possible, namely 20 seconds. The experimenter timed the helping behavior and the actor counted the number of pens picked up by the participants. The actor dropped 7 or 8 pens and the number of pens dropped did not affect the results in any ways.

<sup>4</sup>As in Study 1, participants who did not help were assigned the maximum number of seconds possible, which in case of Study 2 meant 70 seconds as the actor in Study 2 choked on the piece of candy for that amount of time.

Table 1

*Number of seconds before helping someone who is choking as a function of bystanders present or absent and being reminded or not about disinhibited behavior (Study 2)*

	Bystanders			
	Present		Absent	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Disinhibited behavior				
Disinhibition	28.15	19.03	17.92	7.84
No disinhibition	43.39	22.59	15.15	5.84